



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/869,956	10/15/2001	Frank Kappe	KAPPE=1	4398
1444	7590	10/25/2004	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			KOSLOW, CAROL M	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/869,956

Applicant(s)

KAPPE ET AL.

Examiner

C. Melissa Koslow

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 32-56, 58, 59 and 66-73 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-55 is/are allowed.
- 6) ☐ Claim(s) 56, 58, 66-71 and 73 is/are rejected.
- 7) ☒ Claim(s) 59 and 72 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 1755

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 September 2004 has been entered.

The rejections over claims 57, 64 and 65 are withdrawn since these claims have been canceled.

The indicated allowability of claims 56, 58, 66 and 67 is withdrawn in view of the newly discovered reference U.S. patent 6,077,458. Rejections based on the newly cited reference follow.

The disclosure is objected to because of the following informalities: In paragraph [0020], "efectroluminophores" should be "electroluminophores". Appropriate correction is required.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 32 and 66 are objected to because of the following informalities: In part b of claim 32, the period after "sulfide" should be deleted. In claim 66, "inactivator" should be "coactivator". Appropriate correction is required.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1755

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 68 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,874,895 (Hase et al).

Examples 9-14 teach cubic zinc sulfide electroluminophores having an average particle size of 8 or 9 microns and comprising copper and/or gold activators, and aluminum and at least one of gallium and indium as co-activators. The reference teaches the claimed electroluminophores.

Applicants argue this claim should be allowable since it depends from allowable claim 32. This is incorrect, this claim is a product-by-process claim where the claimed phosphor is produced by the method of allowable claim 32. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Applicants have not shown

Art Unit: 1755

that the claimed phosphor is not the same or obvious from the taught phosphors. The rejection is maintained.

Claims 69 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patents 4,508,760 and 5,244,750.

These patents teach zinc sulfide electroluminophores are coated with a protective layer. U.S. patent 4,508,760 teaches zinc sulfide electroluminophores having an organic material protective layer and having an average particle or grain size in the range of 5-50 microns. U.S. patent 5,244,750 teaches zinc sulfide electroluminophores having an alumina protective layer and having an average particle or grain size in the range of 5-80 microns. The taught size range encompasses the claimed range. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The references suggest the claimed electroluminophores.

Claims 68 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. patent 6,077,458.

Example 3 teaches cubic zinc sulfide electroluminophores having an average particle size of 8 microns and silver as an activator and aluminum as a coactivator. The reference teaches the claimed electroluminophores.

Claims 56, 58, 66-71 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. patent 6,077,458.

This reference teaches zinc sulfide particles which have a crystalline inorganic protective layer. The taught phosphors have an average diameter in the range of 1-8 microns (col. 3, lines 61-66 and col. 7, lines 1-4). This range overlaps the claimed ranges. Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960).

The examples show that the zinc sulfide particles can either be in the hexagonal or cubic form. Thus the reference suggests ZnS:Ag,Al phosphor particles in the cubic form having an average particle size in the range of 1-8 microns, which has an inorganic crystalline coating. ZnS:Ag,Al phosphor is a known electroluminophore. The reference suggests the claimed electroluminophors.

U.S. patent 4,486,499 is cited as of interest since it teaches ZnS:Ag,Al is an electroluminophore in column 3, lines 20-22.

Claims 32-55 are allowable over the cited art of record.

Claims 59 and 72 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 32-55 are allowable since there is no teaching in the cited art of the claimed process. Claims 59 and 72 are allowable since there is no teaching or suggestion in the cited art of zinc sulfide electroluminophores coated with a protective layer consisting of an inner metal oxide film and an outer silicon nitrate film.

Art Unit: 1755


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
October 22, 2004

  
C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700